(54) Title : DEVICE AND METHOD FOR COHERENT-TRACKING OF CDMA RECEIVER

(54) 発明の名称　　CDMA受信機のコヒーレントトラッキング装置および方法

103, 104, 203, 204 ... integrating and dumping circuit

105 ... automatic frequency controlling circuit
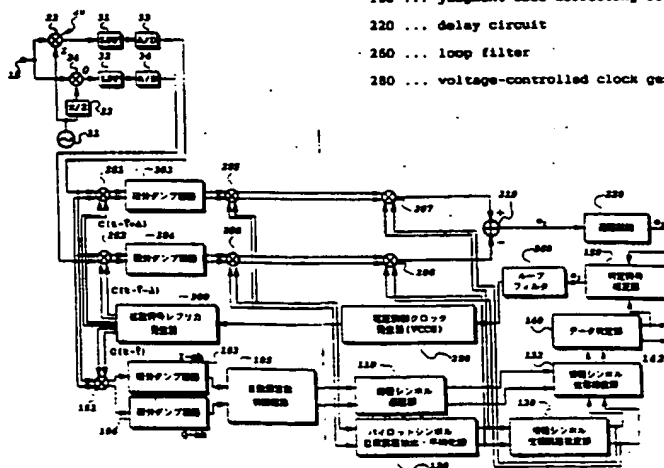
300 ... spreading code replica generator

110 ... information symbol delaying section

120 ... pilot symbol phase error extracting/averaging section

130 ... information symbol phase error estimating section

132 ... information symbol phase compensating section

140 ... data identifying section

150 ... judgment code correcting section

220 ... delay circuit

260 ... loop filter

280 ... voltage-controlled clock generator (VCCG)

(57) Abstract

A coherent-tracking device of a CDMA receiver, which performs coherent tracking with high accuracy and with low noise. The tracking device is provided with a demodulation coherent detector which performs coherent detection by multiplying a received spread-spectrum signal by a demodulated spreading code replica whose phase is synchronized with the received spreading code contained in the received spread-spectrum signal, an absolute synchronous detector which performs absolute synchronous detection of the coherent signal (compressed-back signals) from the demodulation coherent detector and demodulates information data, a tracking coherent detector which performs coherent detection by multiplying the received spread-spectrum signal by a pair of tracking spread-spectrum code replicas having phases shifted from the phase of the demodulated spreading code replica by ±1/2-chip period, a judgement code correcting circuit which reversely modulates the output difference (phase error signal) of the tracking coherent detector with the output of the absolute synchronous detector to remove the information data modulated components contained in the error signal, and a spreading code replica generator which generates a demodulated spreading code replica and a tracking spreading code replica while controlling the phase by using the error signal outputted from the correcting circuit.